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Ethnomedicinal Plant Practices Among Tribal Communities In Kalahandi District, Odisha

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Abstract

This study investigates the ethnomedicinal practices of indigenous communities in the Kalahandi district of Odisha, India, where access to modern healthcare remains limited. Conducted between July 2023 and January 2024, the research draws on both primary and secondary sources to document traditional plant-based remedies used for the prevention and treatment of various ailments. Fieldwork was carried out across ten villages, involving interviews with 48 informants, including both traditional healers (*Kavirajs*) and knowledgeable non-healers. Data were collected using structured and semi-structured questionnaires, supplemented by direct observation and guided field visits. A total of 61 plant species—comprising 30 trees, 14 shrubs, and 17 herbs—were recorded for their medicinal applications. The study details preparation methods, routes of administration, and the use of additional ingredients such as milk, sugar, and water. Plant identification was verified using standard botanical literature, and photographic documentation supported the authenticity of the findings. Both qualitative and quantitative analyses were employed to interpret the data. This research contributes to the preservation of indigenous knowledge systems and highlights the continued relevance of ethnomedicine in rural health care.

Keywords: Ethnomedicine, Indigenous knowledge, Tribal healthcare, Medicinal plants, Kalahandi district, Traditional healing systems, Biodiversity conservation

Introduction

Ethnomedicine refers to culturally embedded systems of healing that integrate botanical knowledge, spiritual beliefs, and ecological relationships to interpret and treat illness within indigenous communities (Bodeker & Kronenberg, 2002). It encompasses both the cultural understanding of disease and the practices through which individuals seek care, often functioning outside formal biomedical frameworks (Acharya & Shrivastava, 2008).

Globally, traditional medicine has gained recognition not only in developing nations but also in countries with dominant biomedical systems, where it complements conventional healthcare approaches (World Health Organization [WHO], 2013). Its practice varies widely across regions, shaped by cultural heritage, historical context, and individual philosophies (Patwardhan et al., 2005; Reddy, Guite, & Subedi, 2023).

Ethnomedicinal systems are often time-intensive but are widely regarded as effective, legitimate, and affordable. Tribal communities possess rich indigenous knowledge passed down orally through generations,

relying on local healers who have experiential expertise in the use of medicinal plants (Kala, 2005; Dash & Padhy, 2006). These healers, known locally as *Kavirajs* or *Gurmain*, play a central role in community health management.

Kalahandi district in Odisha is home to several tribal groups, including the Kondha, Gonda, Bhatra, Kotia, Pentia, and Meria. These communities maintain distinct traditions of healing, rooted in ecological knowledge and cultural practices (Aich, 2024; Joshi, 2019). Ethnomedicine in this region is not merely a system of treatment but a culturally sanctioned and time-tested phenomenon that reflects the community's relationship with nature and health.

Traditional medicine, often used synonymously with ethnomedicine, refers to holistic systems of healing—oral or written—that function in the diagnosis, prevention, and treatment of illness. These practices are based on practical experience, observation, and techniques that may or may not be influenced by regional culture or religious beliefs (Jain & DeFilipps, 1991; Singh & Srivastava, 2010). Tribal healthcare traditions are culturally approved and represent a comprehensive approach to healing and wellness.

Area of the Study

Kalahandi district is situated in the southwestern region of Odisha, India, between 19°03'N and 20°18'N latitude and 82°20'E and 83°47'E longitude. The district headquarters, Bhawanipatna, lies approximately 418 kilometers from the state capital, Bhubaneswar. Geographically, Kalahandi is bordered by Nuapada and Balangir districts to the north, Kandhamal and Rayagada to the east, Nabarangapur and Koraput to the south, and Raipur (Chhattisgarh) and Nabarangapur to the west. According to the Surveyor General of India, the district spans 7,920 square kilometers, ranking seventh in Odisha in terms of area (Majhi, 2021).

The region is predominantly inhabited by tribal communities who live in close proximity to forested landscapes. These indigenous groups have historically conserved local biodiversity through sustainable practices and deep ecological knowledge (Mohanty & Patra, 2022). Forests serve as a vital source of shelter, nutrition, and livelihood. Wild edible plants—consumed both raw and cooked—form an integral part of their diet, with flowers and seeds often prepared as food. Additionally, forest resources such as timber and firewood are used for domestic and economic purposes (Padhan, 2020).

The tribal populations of Kalahandi have cultivated a profound and enduring relationship with their natural surroundings. Their economic, social, religious, and cultural lives are intricately woven into the forest ecosystem, resulting in a symbiotic bond wherein the forest is perceived not merely as a resource but as a nurturing entity—akin to a mother caring for her child (Joshi, 2019). This interdependence reflects the holistic worldview and ecological stewardship practiced by these communities.

Methodology

The research was conducted between July 2023 and January 2024 using a combination of primary and secondary data sources. Primary data were collected from various blocks within the Kalahandi district through direct engagement with 48 informants, including traditional healers (*Kavirajs*) and knowledgeable non-healers. To ensure transparency and ethical integrity, group discussions were held to explain the study's objectives, obtain informed consent, and assure participants that their traditional knowledge would be respected and protected (Reddy et al., 2023).

Data collection followed an empirical research design and was guided by structured and semi-structured questionnaires. Individual interviews were conducted in Sambalpuri/Kosali, the local language, and were supplemented by direct observation and guided field visits (Dash & Padhy, 2006). The recorded data included vernacular plant names, plant parts used, preparation methods (single or multiple components), application techniques, and dosage details for treating specific ailments.

Photographs of selected medicinal plants were taken during field visits to support the authenticity of the documentation. Plant identification was verified using standard botanical references (Jain & DeFilipps,

1991). A total of 61 plant species—comprising 30 trees, 14 shrubs, and 17 herbs—were documented. Most plants were sourced from secondary forest areas, while some were purchased from local markets (Kala, 2005).

Field interviews were conducted during daytime guided walks through areas where the *Kavirajs* typically collected their medicinal plants. All responses were documented using the prepared questionnaires, which covered essential parameters for recording traditional knowledge. Questions focused on the use of single or mixed plant species, methods of intake, preparation techniques (e.g., powdering, boiling), routes of administration (oral or dermal), and additional ingredients such as water, sugar, and milk (Singh & Srivastava, 2010; Sharma & Manhas, 2015).

Secondary data were obtained from books, academic journals, and online sources. Both qualitative and quantitative analyses were employed to interpret usage patterns, preparation techniques, and therapeutic applications (WHO, 2013; Aich, 2024).

Conclusion

The ethnomedicinal practices of tribal communities in Kalahandi district embody a deep-rooted cultural and ecological wisdom that has evolved through generations of close interaction with forest ecosystems. These traditions are not only vital for community health but also play a crucial role in conserving biodiversity. The use of native plant species for healing reflects a sustainable approach to resource management, where conservation and cultural continuity go hand in hand (Majhi, 2021; Padhan, 2020).

In the face of globalization and the growing dominance of biomedical systems, such indigenous knowledge systems are increasingly at risk of erosion. This study highlights the urgent need to document and safeguard ethnomedicinal practices—not only as a cultural heritage but also as a living system of healthcare that is affordable, accessible, and ecologically sound. Conservation of medicinal plant species and the forest landscapes that support them is essential to ensure the survival of these practices for future generations (Mohanty & Patra, 2022; Reddy et al., 2023).

By recognizing the value of ethnomedicine and integrating it into broader health and conservation strategies, we can empower tribal communities, reduce healthcare costs, and promote sustainable development. Ultimately, the preservation of ethnomedicinal knowledge is inseparable from the conservation of the ecosystems in which it thrives.

You're absolutely right, Dayanidhi—thank you for catching that. The original list included 18 plants, but one entry was inadvertently skipped in the numbering. Here's the **corrected and complete table** of all 18 ethnomedicinal plants used by indigenous communities in Kalahandi, formatted for clarity and academic presentation:

Ethnomedicinal Plants Used by Indigenous Communities in Kalahandi

The table presented below includes only a representative sample of the ethnomedicinal plant species documented during fieldwork in Kalahandi district. Due to limitations in scope and space, not all recorded species could be listed. A complete inventory of the documented plants, along with detailed notes on preparation and administration, has been archived and is available upon request for scholarly reference or future research.

Sl. No.	Botanical Name	Vernacular Name	Parts Used	Ethnomedicinal Use
1	*Aegle marmelos*	Bela	Leaves, fruit pulp	Blood purifier, digestive aid, conception, deafness, deworming
2	*Bombax ceiba*	Simuli	Thorn	General tonic, strengthening agent
3	*Buchanania lanzan*	Chara	Latex	Swelling
4	*Butea monosperma*	Palas	Seeds	Sexual debility, contraceptive, diarrhoea, dysentery, deworming
5	*Diospyros melanoxylon*	Kendu	Fruit	Loose motion
6	*Emblica officinalis*	Amla	Fruit	Indigestion, acidity, skin allergy, vocal cord congestion
7	*Feronia limonia*	Kaintha	Fruit	Appetizer
8	*Pongamia pinnata*	Karanj	Seed oil	Scabies, swelling around eyes
9	*Pterocarpus marsupium*	Piasal	Bark latex	Skin diseases
10	*Shorea robusta*	Sal	Bark	Diarrhoea, cholera
11	*Syzygium cumini*	Jamu	Bark	Diarrhoea, blood dysentery, breast milk deterrent
12	*Tectona grandis*	Saguan	Dried leaves	Wound healing
13	*Terminalia arjuna*	Arjuna	Bark	Vitality, cardiac ailments, semen in urine
14	*Terminalia bellirica*	Bahada	Fruit	Indigestion, vocal cord infection, smallpox prevention
15	*Terminalia chebula*	Harida	Fruit	Ringworm, common cold, skin allergy
16	*Ziziphus jujuba*	Barakoli	Leaves, latex	Loose motion, dandruff, scabies
17	*Abutilon indicus*	Pedipedica	Root	Piles
18	*Azadirachta indica*	Neem	Leaves, bark	Skin infections, fever, blood purification, insect repellent

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